

US

What is claimed is:

1. An IP-PBX (Internet Protocol Private Branch eXchange) comprising:

a software-based built-in control unit;

at least one card slot into which a control card  
5 is plugged; and

a data bus connecting said software-based built-in control unit and said card slot,

wherein said software-based built-in control unit includes:

10 a first management unit managing up to a first number of IP (Internet Protocol) terminals; and

an IP terminal registering unit connected to said first management unit and said card slot,

wherein said control card includes a second  
15 management unit managing up to a second number of IP terminals,

wherein said IP terminal registering unit compares a current number of IP terminals managed by one of said first management unit and said second  
20 management unit with corresponding one of said first number and said second number when an IP terminal requests communication, said IP terminal having an ID number and an IP address,

wherein, if said current number is smaller than  
25 said one number, said IP terminal registering unit associates said one management unit with said ID

number and said IP address, and said one management unit manages said IP terminal,

wherein, if said current number is equal to said  
30 one number, said IP terminal registering unit  
associates another of said first management unit and  
said second management unit with said ID number and  
said IP address, and said another management unit  
manages said IP terminal.

2. The IP-PBX according to Claim 1,

wherein when said one management unit manages  
said IP terminal, said one management unit stores an  
IP address translation data indicative of relation  
5 between said ID number and said IP address of said IP  
terminal,

wherein when said another management unit manages  
said IP terminal, said another management unit stores  
an IP address translation data indicative of relation  
10 between said ID number and said IP address of said IP  
terminal.

3. The IP-PBX according to Claim 2,

wherein said software-based built-in control unit  
further comprises:

a main telephony unit; and  
5 a port selecting unit connected to said main  
telephony unit, said one management unit and said

another management unit,

wherein said main telephony unit generates a control signal which controls said IP terminal and  
10 transmits said control signal to said port selecting unit,

wherein said ID number is specified in said control signal,

wherein said port selecting unit checks which of  
15 said one management unit and said another management unit is managing said IP terminal, based on said ID number specified in said control signal,

wherein said port selecting unit transfers said control signal to a management unit which is managing  
20 said IP terminal,

wherein said management unit retrieves said IP address of said IP terminal from said IP address translation data by using said ID number specified in said control signal,

25 wherein said management unit transmits said control signal to said IP terminal according to said IP address.

4. An IP-PBX system comprising:

an IP-PBX;

a plurality of IP terminals; and

a network connecting said IP-PBX and said

5 plurality of IP terminals,

wherein said IP-PBX comprises:

a software-based built-in control unit;

at least one card slot into which a control card is plugged; and

10 a data bus connecting said software-based built-in control unit and said card slot,

wherein said software-based built-in control unit includes:

a first management unit managing up to a first  
15 number of IP terminals and connected to said network;  
and

an IP terminal registering unit connected to said first management unit, said card slot and said network,

wherein said control card includes a second  
20 management unit managing up to a second number of IP terminals and connected to said network,

wherein said IP terminal registering unit compares a current number of IP terminals managed by one of said first management unit and said second  
25 management unit with corresponding one of said first number and said second number when one of said plurality of IP terminals requests communication, said one IP terminal having an ID number and an IP address,

wherein, if said current number is smaller than  
30 said one number, said IP terminal registering unit associates said one management unit with said ID number and said IP address, and said one management

unit manages said one IP terminal,

wherein, if said current number is equal to said  
35 one number, said IP terminal registering unit  
associates another of said first management unit and  
said second management unit with said ID number and  
said IP address, and said another management unit  
manages said one IP terminal.

5. The IP-PBX system according to Claim 4,

wherein when said one management unit manages  
said one IP terminal, said one management unit stores  
an IP address translation data indicative of relation  
5 between said ID number and said IP address of said one  
IP terminal,

wherein when said another management unit manages  
said one IP terminal, said another management unit  
stores an IP address translation data indicative of  
10 relation between said ID number and said IP address of  
said one IP terminal.

6. The IP-PBX system according to Claim 5,

wherein said software-based built-in control unit  
further comprises:

a main telephony unit; and

5 a port selecting unit connected to said main  
telephony unit, said one management unit and said  
another management unit,

wherein said main telephony unit generates a control signal which controls said one IP terminal and  
10 transmits said control signal to said port selecting unit,

wherein said ID number is specified in said control signal,

wherein said port selecting unit checks which of  
15 said one management unit and said another management unit is managing said one IP terminal, based on said ID number specified in said control signal,

wherein said port selecting unit transfers said control signal to a management unit which is managing  
20 said one IP terminal,

wherein said management unit retrieves said IP address of said one IP terminal from said IP address translation data by using said ID number specified in said control signal,

25 wherein said management unit transmits said control signal to said one IP terminal according to said IP address.

7. The IP-PBX system according to Claim 6,

wherein said one IP terminal transmits a signal to said management unit which is managing said one IP terminal,

5 wherein said IP address is specified in said signal,

wherein said management unit retrieves said ID number of said one IP terminal from said IP address translation data by using said IP address specified in  
10 said signal, and incorporates said ID number in said signal,

wherein said management unit transmits said signal to said main telephony unit through said port selecting unit,

15 wherein said main telephony unit carries out processing with regard to said one IP terminal according to said ID number specified in said signal.

8. A computer program product comprising:

a computer usable medium having computer readable program code embodied therein configured for controlling an IP-PBX,

5 said IP-PBX comprising at least one card slot into which a control card is plugged, said control card managing up to a second number of IP terminals,

said computer program product comprising:

computer readable code as a first code configured  
10 to cause a computer to manage up to a first number of IP terminals;

computer readable code configured to cause a computer to compare a current number of IP terminals managed by one of said first code and said control  
15 card with corresponding one of said first number and

said second number when an IP terminal requests communication, said IP terminal having an ID number and an IP address;

computer readable code configured to associate  
20 said one of said first code and said control card with said ID number and said IP address and to have said one of said first code and said control card manage said IP terminal, if said current number is smaller than said one number; and  
25 computer readable code configured to associate another of said first code and said control card with said ID number and said IP address and to have said another of said first code and said control card manage said IP terminal, if said current number is  
30 equal to said one number.